

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

JAKOB NIELSEN

Serial No.: 08/865,962

Filed: May 30, 1997



: Response Under 37 CFR 1.116 - Expedited Procedure

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JAN 02 2001

Technology Center 2100

For: LATENCY-REDUCING BANDWIDTH-PRIORITIZATION FOR NETWORK SERVERS AND CLIENTS

Box AF  
 THE COMMISSIONER FOR PATENTS AND TRADEMARKS  
 Washington, DC 20231

Dear Sir:

Transmitted herewith is an Amendment in the above identified application.

No additional fee is required.

Small entity status of this application under 37 CFR 1.9 and 1.27 has been established by a verified statement previously submitted.

A verified statement to establish small entity status under 37 CFR 1.9 and 1.27 is enclosed.

Also attached: IDS, Date-stamped postcard & 10 references as filed on 5/16/00.

The fee has been calculated as shown below:

	NO. OF CLAIMS	HIGHEST PREVIOUSLY PAID FOR	EXTRA CLAIMS	RATE	FEE
Total Claims	19	22	0	\$18.00 =	\$0.00
Independent Claims	5	7	0	\$80.00 =	\$0.00
Multiple claims newly presented					\$0.00
Fee for extension of time					\$0.00
					\$0.00
Total of Above Calculations					\$0.00

Please charge my Deposit Account No. 500417 in the amount of \$0.00. An additional copy of this transmittal sheet is submitted herewith.

The Commissioner is hereby authorized to charge payment of any fees associated with this communication or credit any overpayment, to Deposit Account No. 500417, including any filing fees under 37 CFR 1.16 for presentation of extra claims and any patent application processing fees under 37 CFR 1.17.

Respectfully submitted,

MCDERMOTT, WILL &amp; EMERY

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Docket No.: 50253-112

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In re Application of

JAKOB NIELSEN

Serial No.: 08/865,962

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Group Art Unit: 2757

Examiner: Q. Le

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Technology Center 2100

For: LATENCY-REDUCING BANDWIDTH-PRIORITIZATION FOR NETWORK  
SERVERS AND CLIENTS

**REQUEST FOR RECONSIDERATION UNDER 37 C.F.R. 1.116**

Honorable Assistant Commissioner  
For Patents  
Washington, DC 20231

Sir:

In response to the final Office Action dated September 27, 2000, reconsideration and allowance of the above-referenced application are respectfully requested. Claims 3-7 and 9-22 are pending in this application. Claims 3-7 and 9-22 are rejected.

**Previous Submitted IDS**

Regarding the Examiner's assertion that the information disclosure statement filed on May 16, 2000 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the form PTO-1449 and copies are not submitted, the applicants respectfully traverse this assertion. As indicated on the copy of our postcard, the PTO acknowledged receipt of form PTO-1449/search report and 10 references submitted on May 16, 2000 in accordance with the provisions of 37 CFR 1.56, 1.97 and 1.98. As indicated in that correspondence, three references were not submitted because they were previously made

of record. Hence, the applicants request that the Examiner consider all of the references cited on the PTO-1449 form. A copy of the European Search Report and the ten cited references are submitted herewith.

Rejection of Claims 3-7, 9-13 and 17-22 Under 35 U.S.C. § 103

Claims 3-7, 9-13 and 17-22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tobagi. This rejection is respectfully traversed.

Tobagi is directed to a data throttling system for a communications network. A throttler at a station or a throttler at a network adapter controls access to a shared transmission medium implementing the IEEE 802.3 or FDDI standard. Tobagi does not teach or suggest allocation of bandwidth based on type of information.

Independent claim 3 recites a computer apparatus for allocating communications bandwidth to a plurality of user connections, comprising a bus, at least one communications interface connected to said bus, and a processor connected to said bus. The processor is configured to allocate communications bandwidth to the user connections serviced by the at least one communications interface based on at least one set of priorities, in which one set of priorities comprises priorities based on type of information being retrieved in which the type of information includes at least one of information in HTML format, information in a style sheet format, information in a GIF image format and information in a JPEG image format. Thus, the processor allocates bandwidth based on the type of information.

Comparing Tobagi with the claimed invention of claim 3, the two systems allocate bandwidth in different manners. In Tobagi, when a station is able to transmit data over the shared medium, a throttler submits data packets of the highest priority for

transmission until one of two events occurs: (1) there are no more packets of the highest priority to transmit or (2) the elapsed time since the token was received equals or exceeds the token hold time (THT) parameter. (See Tobagi, Col. 9, lines 3-10). Thus, each station in Tobagi must wait for the opportunity to transmit and once a station is able to transmit, the throttler simply transmits data according to priority. Hence, the throttler is not allocating communications bandwidth to a plurality of user connections, but simply prioritizing the submission of data packets for transmission. In other words, Tobagi is not allocating bandwidth in that the lower prioritized data is only transmitted when the higher priority data is done transmitting and the station still has time to transmit data. Therefore the lower prioritized data may not be transmitted.

In contrast, the claimed invention of claim 3 does allocate communications bandwidth to a plurality of user connections. Referring to Figure 3 of the present invention, the allocated bandwidth to a plurality of users is depicted. As illustrated, client 1 360 is allocated 25% N 320, client 2 370 is allocated 50% N 330, client 3 380 is allocated 20% N 340, and client 4 390 is allocated 5% N 350. The percentages are determined by a set of priorities. For example, in claim 3, the set of priorities is based on the “type of information which includes at least one information in HTML format, information in a style sheet format, information in a GIF image format and information in a JPEG image format.” Thus, using the claimed invention of claim 3, the different types of data are transmitted, however the allocated bandwidth for each type of information differs based on the set of priorities.

Therefore, the two inventions operate in different manners, namely, Tobagi simply prioritizes data for transmission and the claimed invention of claim 3 is allocating bandwidth based on a set of priorities.

Moreover, as admitted by the Examiner, Tobagi does not explicitly disclose that the type of information includes at least one of information in HTML format, information in a style sheet format, information in a GIF image format and information in a JPEG image format, the Examiner states that one of ordinary skill in the art would have been motivated to modify Tobagi in order to enable Tobagi's system to handle most common information formats. The applicant respectfully disagrees with the Examiner's conclusion.

The initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention is always upon the Examiner. *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 223 USPQ 785 (Fed. Cir. 1984). In rejecting a claim under 35 U.S.C. §103, the Examiner must provide a factual basis to support the obviousness conclusion. *In re Warner*, 379 F.2d 1011, 154, USPQ 173 (CCPA 1967); *In re Lunsford*, 357 F.2d 385, 148 USPQ 721 (CCPA 1966); *In re Freed*, 425 F.2d 785, 165 USPQ 570 (CCPA 1970). Based upon the objective evidence of record, the Examiner is required to make the factual inquiries mandated by *Graham v. John Deere Co.*, 86 S.Ct. 684, 383 U.S. 117, 148 USPQ 459, 469 (1966). The Examiner is also required to explain how and why one having ordinary skill in the art would have been led to modify an applied reference and/or to combine applied references to arrive at the claimed invention. *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 USPQ2d 1434 (Fed. Cir. 1988).

It should be recognized that the fact that the prior art could be modified so as to result in the combination defined by the claims at bar would not have made the modification obvious unless the prior art suggests the desirability of the modification. *In re Deminski*, 796 F.2d 436, 230 USPQ 313 (Fed. Cir. 1986).

Moreover, recognizing after the fact that such a modification would provide an improvement or advantage, without suggestion thereof by the prior art, rather than dictating a conclusion of obviousness, is an indication of improper application of hindsight considerations. Simplicity and hindsight are not proper criteria for resolving obviousness. *In re Warner, supra*.

It is only Applicants' disclosure that discloses a "processor configured to allocate communications bandwidth to said user connections serviced by said at least one communications interface based on at least one set of priorities, wherein, the one set of priorities comprises priorities based on type of information being retrieved wherein the type of information includes at least one of information in HTML format, information in a style sheet format, information in a GIF image format and information in a JPEG image format." Tobagi does not teach or suggest such features. Applicants' disclosure may not properly be relied upon to support the ultimate legal conclusion of obviousness under 35 U.S.C. §103. *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 227 1 USPQ2d 1593 (Fed. Cir. 1987).

The Examiner fails to cite where Tobagi teaches or suggests that the type of information being retrieved includes at least one of information in HTML format, information in a style sheet format, information in a GIF image format and information in a JPEG image format. Tobagi does not provide any suggestion or motivation to prioritize

transmission of data based on the type of information, e.g., HTML, style sheets, GIF, and JPEG formats. Rather, as stated in the "Response to Arguments," the Examiner appears to be relying on Vaid et al. (U.S. Patent No. 6,047,322) and Nielsen (U.S. Patent No. 5,826,031) as teaching a priority scheme, however the Examiner fails to provide the proper suggestion or motivation. In addition, the Examiner does not cite these references in the rejection of these claims.

Furthermore, there is no credible motivation in Tobagi that is identified by the Examiner that would lead a person of ordinary skill in the art to look to the other references for a solution. As a result, the Examiner has failed to meet the *prima facie* burden of obviousness. The Applicant respectfully requests that the Examiner withdraw the rejection.

For at least these reasons, claim 3 is patentable over Tobagi.

Regarding the rejection of claims 4-6, 9-13 and 17-22, as stated above for claim 3, the Examiner has failed to met his *prima facie* burden of obviousness. The Examiner has not identified a credible motivation in Tobagi that would lead a person of ordinary skill in the art to look to modify Tobagi as cited by the Examiner. For at least these reasons, claims 4-6, 9-13 and 17-22 are patentable over Tobagi.

Independent claim 4 is directed to a computer apparatus for allocating communications bandwidth to a plurality of user connections, comprising a bus, at least one communications interface connected to the bus and a processor connected to the bus. The processor is configured to allocate communications bandwidth to the user connections serviced by the at least one communications interface based on at least one

set of priorities, in which the one set of priorities comprises priorities based on how fast user connections can receive information.

Claim 4, like 3, uses a set of priorities, specifically the set of priorities are based on how fast user connections can receive information. Hence, the same arguments stated above for claim 3 also apply to claim 4. Namely that Tobagi is not allocating communications bandwidth to a plurality of user connections based on a set of priorities of how fast user connections can receive information.

Moreover, as admitted by the Examiner Tobagi does not teach that one set of priorities comprises priorities based on how fast user connection can receive information, rather the Examiner simply states that one of ordinary skill in the art would have been motivated to modify Tobagi by allocating bandwidth based on the speed of a user connection in order to make the system run well in an environment with different connection speeds. The applicant respectfully disagrees with the Examiner's conclusion. For at least these reasons, claim 4 is patentable over Tobagi.

Independent claim 5 is directed to a computer apparatus for allocating communications bandwidth to a plurality of user connection, comprising a bus, at least one communications interface connected to the bus and a processor connected to the bus. The processor is configured to allocate communications bandwidth to the user connections serviced by the at least one communications interface based on at least one set of priorities, in which the one set of priorities comprises priorities based on which part of a document is being transmitted.

Claim 5, like 3, uses a set of priorities, specifically the set of priorities are based on which part of a document is being transmitted. Hence, the same arguments stated

above for claim 3 also apply to claim 5. Namely that Tobagi is not allocating communications bandwidth to a plurality of user connections based on which part of a document is being transmitted.

Moreover, as admitted by the Examiner Tobagi does not teach that one set of priorities comprises priorities based on which part of a document is being transmitted, rather the Examiner simply states that one of ordinary skill in the art would have been motivated to modify Tobagi in order to make Tobagi's system more universal. The applicant respectfully disagrees with the Examiner's conclusion. For at least these reasons, claim 5 is patentable over Tobagi.

Independent claim 6 is directed to a computer apparatus for allocating communications bandwidth to a plurality of user connection, comprising a bus, at least one communications interface connected to the bus and a processor connected to the bus. The processor is configured to allocate communications bandwidth to the user connections serviced by the at least one communications interface based on at least one set of priorities, in which the one set of priorities comprises priorities based on user identity.

Claim 6, like 3, uses a set of priorities, specifically the set of priorities are based on at least one set of priorities, in which the one set of priorities comprises priorities based on user identity. Hence, the same arguments stated above for claim 3 also apply to claim 6. Namely that Tobagi is not allocating communications bandwidth to a plurality of user connections based on at least one set of priorities, in which the one set of priorities comprises priorities based on user identity.

Moreover, as admitted by the Examiner Tobagi does not teach that one set of priorities comprises priorities based on user identity, rather the Examiner simply states that one of ordinary skill in the art would have been motivated to modify Tobagi by allocating bandwidth based on the speed of a user connection in order to make the system more universal. The applicant respectfully disagrees with the Examiner's conclusion. For at least these reasons, claim 6 is patentable over Tobagi.

Independent claim 7 is directed to a computer apparatus for allocating communications bandwidth to a plurality of user connection, comprising a bus, at least one communications interface connected to the bus and a processor connected to the bus. The processor is configured to allocate communications bandwidth to the user connections serviced by the at least one communications interface based on at least one set of priorities, in which the one set of priorities comprises priorities based on stored indicia indicating importance of the document.

Claim 7, like 3, uses a set of priorities, specifically the set of priorities are based on at least one set of priorities, in which the one set of priorities comprises priorities based on stored indicia indicating importance of the document. Hence, the same arguments stated above for claim 3 also apply to claim 7. Namely that Tobagi is not allocating communications bandwidth to a plurality of user connections based on stored indicia indicating importance of the document.

Moreover, as admitted by the Examiner Tobagi does not teach that one set of priorities comprises priorities based on stored indicia indicating the importance of the document, rather the Examiner simply states that one of ordinary skill in the art would have been motivated to modify Tobagi in order to enhance the security of Tobagi's

system. The applicant respectfully disagrees with the Examiner's conclusion. For at least these reasons, claim 7 is patentable over Tobagi.

Independent claim 9 is directed to a computer apparatus for allocating communications bandwidth to a plurality of server connections, comprising a bus, at least one communications interface connected to said bus, and a processor connected to the bus. The processor is configured to allocate communications bandwidth to server connections serviced by the at least one communications interface based on at least one set of priorities, in which one set of priorities comprises priorities based on the state of application processes running on said processor.

Claim 9, like 3, uses a set of priorities, specifically the set of priorities are based on at least one set of priorities, in which the one set of priorities comprises priorities based on the state of application processes running on said processor. Hence, the same arguments stated above for claim 3 also apply to claim 9. Namely that Tobagi is not allocating communications bandwidth to a plurality of user connections based on stored indicia indicating importance of the document.

Moreover, as admitted by the Examiner Tobagi does not teach that one set of priorities comprises priorities based on the state of the application process, rather the Examiner simply states that one of ordinary skill in the art would have been motivated to modify Tobagi so that priorities based on state of the application process in order to enhance the functionality of Tobagi's system. The applicant respectfully disagrees with the Examiner's conclusion. For at least these reasons, claim 9 is patentable over Tobagi.

The Examiner rejects claims 10 and 11 under the same rationale stated for claim 9. Since claims 10 and 11 are dependent on claim 9, claims 10 and 11 are believed allowable for the same reasons stated for claim 9.

Independent claim 12 is directed to a method of operating a server on a network, comprising the steps of providing an element for allocating communications bandwidth at a server to a plurality of user connections based on at least one set of priorities.

Similar to claim 3, claim 12 also uses a set of priorities. Hence, the same arguments stated above for claim 3 also apply to claim 12. Namely that Tobagi is not allocating communications bandwidth to a plurality of user connections based on stored indicia indicating importance of the document.

Moreover, as admitted by the Examiner Tobagi does not explicitly show that stations can be user systems, rather the Examiner simply states it would have been obvious that using stations 13 as user systems depends on the environment. The applicant respectfully disagrees with the Examiner's conclusion. For at least these reasons, claim 12 is patentable over Tobagi.

The Examiner rejects claim 13 for the same rationale stated for claims 3-7. Claim 13 is believed allowable for the same reasons as stated for claims 3-7.

The Examiner rejects claims 17, 19 and 21 for similar reasons as stated for claim 12. Claims 17, 19 and 21 are believed allowable for the same reasons as stated for claim 12.

The Examiner rejects claim 18 for the same rationale stated for claim 9. Claim 18 is believed allowable for the same reasons cited for claim 9.

The Examiner rejects claim 20 for the same rationale stated for claims 9 and 13.

Claim 18 is believed allowable for the same reasons cited for claims 9 and 13.

Independent claim 22 discloses “A computer program product, comprising: a. a memory medium; b. a computer program, stored on said memory medium, said computer program comprising instructions for allocating bandwidth to communications connection based on at least one set of priorities wherein said set of priorities includes at least one of: how fast user connections can receive information, which part of a document is being transmitted, user identity and stored indicia indicating the importance of the document.”

Claim 22, like claim 3, also uses a set of priorities with the set of priorities being one of how fast user connections can receive information, which part of a document is being transmitted, user identity and stored indicia indicating the importance of the document. Hence, the same arguments stated above for claim 3 also applies to claim 22. Namely that Tobagi is not allocating communications bandwidth to a plurality of user connections using a set of priorities including at least one of: how fast user connections can receive information, which part of a document is being transmitted, user identity and stored indicia indicating the importance of the document.

Moreover, as admitted by the Examiner Tobagi does not teach the set of priorities including at least one of: how fast user connections can receive information, which part of a document is being transmitted, user identity and stored indicia indicating the importance of the document, rather the Examiner simply states that a faster connection transmits more data, that in a pay system, a user paying a higher fee should have a faster connection than a user paying a lower fee, an important document should be transmitted in a shorter time as possible in order to secure the document, respectively. The applicants

respectfully disagree with the Examiner's conclusions. For at least these reasons, claim 22 is patentable over Tobagi.

Rejection of Claim 14 Under 35 U.S.C. § 103

Claim 14 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Tobagi et al. in view of Hahne et al. (U.S. Patent No. 5,115,430). This rejection is traversed. Since claim 14 is dependent on allowable claim 12, claim 14 is allowable for the same reasons stated for claim 12.

Moreover, the Examiner fails to provide proper motivation to combine the references. There is no shortcoming in Tobagi identified by the Examiner that would lead a person of ordinary skill in the art to modify Tobagi as suggested by the Examiner. Therefore, the Examiner has failed to establish a *prima facie* case of obviousness, and a rejection under 35 U.S.C. § 103 is improper for this reason as well.

Furthermore, Tobagi is directed to a token based system and Hahne et al. is directed to a slot based system, thus the Examiner does not provide proper motivation to combine these two references in which the transmission of data occurs using two different methods. For at least these reasons, claim 14 is patentable over the cited art.

Rejection of Claims 15 and 16 Under 35 U.S.C. § 103

Claims 15 and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tobagi et al. in view of Shaffer et al. (U.S. Patent No. 5,673,253). This rejection is traversed. Since claims 15 and 16 are dependent on allowable on claim 12, claims 15 and 16 are allowable for the same reasons stated for claim 12.

Moreover, the Examiner fails to provide proper motivation to combine the references. There is no shortcoming in Tobagi identified by the Examiner that would lead

a person of ordinary skill in the art to modify Tobagi as suggested by the Examiner. Therefore, the Examiner has failed to establish a *prima facie* case of obviousness, and a rejection under 35 U.S.C. § 103 is improper for this reason as well.

Furthermore, neither Tobagi nor Shaffer et al. teach or suggest the use of a "set of priorities which includes at least one of: type of information being retrieved, how fast user connections can receive information, which part of the document is being transmitted, user identity and stored indicia indicating importance of the document" as required by claim 13. For at least these reasons claims 15 and 16 are patentable over the cited art.

In view of the above, it is believed that this application is in condition for allowance, and such a Notice is respectfully solicited.

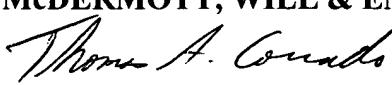
To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

**McDERMOTT, WILL & EMERY**

Date: December 27, 2000

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